
CREATING SUPER SOLDIERS FOR WARFARE: A LOOK INTO THE LAWS
OF WAR

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I. Introduction

“The wars of the future are very likely going to resemble many of the science fiction movies that we are watching right now.”¹ Extreme developments in technology coupled with competition for global control have triggered futuristic ideas of utilizing super human

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¹ See Michael Snyder, *The U.S. Military is Creating Iron Men, Super Soldiers and Terminator Robots to Fight Future Wars*, TRUTH (Oct. 10, 2013), archived at <http://perma.cc/6ZTE-MYP4> (envisioning that future wars will be fought utilizing robots or human enhancement technology); see also Sean Adl-Tabatabai, *US Army Says Next Major War Will Be Fought By Robots and Cyborgs*, YOUR NEWS WIRE (July 25, 2015), archived at <http://perma.cc/3GUM-Q5VQ> (predicting that by around the year 2050, war fighting will be performed by robots and genetically modified super soldiers, rather than ordinary humans).

The battlefield of the future will be populated by fewer humans, but these humans would be physically and mentally augmented with enhanced capabilities that improve their ability to sense their environment, make sense of their environment, and interact with one another, as well as with ‘unenhanced humans,’ automated processes, and machines of various kinds.

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enhancement technology in the military to create super soldiers for warfare.² Even Marvel comic books feature a well-known super soldier, Captain America, who possesses heightened endurance, stamina, strength, agility, and intelligence making him “superior to any Olympic athlete who ever competed.”³ While the idea of creating an army of super soldiers seems far-fetched and long in the making, several research organizations have already begun developing technology to surge human strength and endurance.⁴ Although the idea of using super soldiers to fight wars has sparked extensive top-secret government experiments, implementing technologically enhanced soldiers that contain super strength, recessed pain sensors, superior stamina, and heightened sensory abilities could be a war crime.⁵

² See Bruce Gagnon, *The Pentagon's Strategy for World Domination: Full Spectrum Dominance, from Asia to Africa*, GLOBAL RES. (May 21, 2015), archived at <http://perma.cc/R55J-PPBL> (illustrating how the competition for global dominance will lead to the use of enhanced technology within the military).

³ See *Captain America (Steve Rogers)*, MARVEL, archived at <http://perma.cc/P3T6-SG7M> (describing the various super human capabilities that Captain America possesses); see also Christopher Orr, *A Somber, Super Captain America: The Winter Soldier*, ATLANTIC (Apr. 4, 2014), archived at <http://perma.cc/9DDY-HVSB> (mentioning how super soldier Captain America is being featured in another movie in 2016); *Captain America*, COMIC VINE (last modified Aug. 28, 2016), archived at <http://perma.cc/8EM7-E5WD> (stating that Captain America gained his super human abilities through an experimental Super-Soldier Serum, causing him to be the ceiling for human physical potential and the ultimate team leader of the Avengers).

⁴ See George Dvorsky, *It Could Be a War Crime to Use Biologically Enhanced Soldiers*, IO9 (Jan. 22, 2013), archived at <http://perma.cc/VG6B-RBXG> (stating human enhancement technology is already being developed); see also Patrick Lin, *More Than Human? The Ethics of Biologically Enhancing Soldiers*, ATLANTIC (Feb. 16, 2012), archived at <http://perma.cc/4P74-6PQ7> (inferring that in the next generation, enhanced soldiers will require upgrades to basic human conditions, such as improved strength, durability, and maneuverability). The different technologies required to make such abilities possible include “neuroscience, biotechnology, nanotechnology, robotics, artificial intelligence, and more.” *Id.* See also Brad Allenby, *Is Human Enhancement Cheating?*, SLATE (May 9, 2013), archived at <https://perma.cc/2ZPH-6PUR> (stating that professional athletes have used personal enhancement drugs to improve physical performance).

⁵ See Dvorsky, *supra* note 4 (inferring that using enhanced soldiers for war fighting are considered inhumane weapons and therefore prohibited by the Geneva Conventions because “like all documents, [the Geneva Conventions] was written against the assumptions of time, and no one foresaw . . . the issue [of enhanced soldiers] that we are currently discussing”); see also Snyder, *supra* note 1 (stating that the U.S. Army has plans for the future and that they have already started creating revolutionary enhanced military technology to give soldiers superhuman strength).

The idea of using technology to enhance soldiers was first used by George Washington during the American Revolutionary War from 1775-1783, where vaccinations were used to enhance the human immune system.⁶ However, the next time human enhancement was used in creating super soldiers for warfare began as early as the turn of the nineteenth century where the Soviet Union sought to use DNA manipulation to cross breed humans with apes to create an army that would not easily die or complain by becoming resistant to pain and unconcerned about the quality of food they ate.⁷ Today, the thirst to create the ultimate killing machine is the “fastest growing area of science” in which the creation of enhanced humans will produce soldiers equivalent to robotic killing machines who will out-perform traditional soldiers.⁸ With roughly one-third of all military research worldwide being devoted to technology, the era of using super soldiers will require us to occasionally rewrite the rules of war within the Geneva Conventions.⁹ Currently, the United States Pentagon

⁶ See Lin, *supra* note 4 (detailing the first time that military technology was used to enhance soldiers for warfare). The Commander-in-Chief of the Continental Army, George Washington, had American troops vaccinated against smallpox because the deadly virus had been believed to be used as a biological weapon by the British Army. *Id.* During this time, unlike with the British, smallpox had not been widely exposed to Americans during childhood, therefore creating weak immune systems and the need for vaccines. *Id.* Although biological warfare had been used for centuries prior to the Revolutionary War, George Washington’s vaccination of the American Army to help fight smallpox is recognized as the first time that human enhancement technology occurred. *Id.*

⁷ See Dirk Vander Ploeg, *Stalin’s Half-Man, Half-Ape Super Soldier Origins and History of Human DNA Manipulation*, UFO DIG., archived at <http://perma.cc/F628-92Y5> (detailing Stalin’s attempt in creating super soldiers during the 1920’s); see also Brian Dunning, *Stalin’s Human-Ape Hybrids*, SKEPTOID (Aug. 17, 2010), archived at <http://perma.cc/83L6-FASW> (explaining how Russian Biologist Il’ya Ivanovich Ivanov spent almost his entire career working solely on attempting to create Russian super soldiers as early as 1910).

⁸ See Michael Hanlon, ‘*Super Soldiers*’: *The Quest for the Ultimate Human Killing Machine*, INDEP. (Nov. 16, 2011), archived at <http://perma.cc/VK9R-HRAQ> (stressing the importance of how enhanced soldiers will be specialized in the art of killing because of technological breakthroughs in military technology where soldiers feel less pain, terror, and fatigue); George Dvorsky, *Scientists Raise the Alarm on Human Enhancement Technologies*, IO9 (Nov. 7, 2012), archived at <http://perma.cc/KBJ2-W6YQ> (explaining various types of human enhancement drugs that could be used to create super soldiers).

⁹ See Nayef Al-Rodhan, *Future Wars: Reshaping the Ethics and Norms of War*, WILSON Q. (2015), archived at <http://perma.cc/7BMD-FLMN> (suggesting that an

spends 400 million dollars a year researching and exploring ways to create super soldiers through human enhancement technology that would allow soldiers to be combat operational even after 48 hours of sleep deprivation.¹⁰ Although the race to create an army of enhanced war fighters has already begun, the ambiguity of Article 35(2) of the Geneva Conventions begs the ultimate question of whether using super soldiers for warfare is prohibited.¹¹

This Note argues that Article 35(2) of the Geneva Conventions does not prohibit the use of super soldiers for warfare. This can be achieved by showing that the use of super soldiers in warfare would not likely cause “superfluous injury or unnecessary suffering” to enemy combatants or civilians.¹² This Note will begin by explaining what super soldiers are, the various types of capabilities they may possess, and then a brief history of the existence of super soldiers.¹³ Additionally, this Note will give a brief history and description of Article 35(2) of the Geneva Conventions.¹⁴ This Note will then use Article 35(2) of the Geneva Conventions to argue that although technology in the military is quickly evolving, the use of military technology to create an army of super soldiers in warfare is not prohibited.¹⁵

era of super soldiers will require lawyers and legislatures to reconsider what the Geneva Conventions set out for the rules of war).

¹⁰ See Hanlon, *supra* note 8 (stating the yearly amount the Pentagon uses for military technology research to develop enhanced soldiers for warfare); see also Ujala Sehgal & Robert Johnson, *15 Facts About Military Spending That Will Blow Your Mind*, BUS. INSIDER (Oct. 14, 2011), archived at <http://perma.cc/V2ED-LJNR> (describing how the United States military has increased spending by 114 percent over the last 13 years on sophisticated weapons that do not usually make it to production). Military spending during this time frame has increased 8 percent since President Regan’s administration during the Cold War. *Id.* With the increase in spending from the United States Military, a full 1 percent of the United States’ gross domestic product (“GDP”) must be spend just to maintain the military’s weapon arsenal. *Id.*

¹¹ See Dvorsky, *supra* note 4 (discussing whether the Geneva Conventions could make using super soldiers a war crime under the rules of war).

¹² See *Article 35: Basic Rules*, INT’L COMMITTEE RED CROSS, archived at <http://perma.cc/F8ZP-MKR8> (stating the rule prohibiting certain methods of warfare). Article 35(2) states that “It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.” *Id.*

¹³ See *infra* section II.

¹⁴ See *infra* section II.

¹⁵ See *infra* section III.

II. History

A. Super Soldier Defined

In light of the quickly evolving era of military technology, governments from across the world are in competition to create the first super soldier designed to become an efficient killing machine possessing abilities only seen in movies.¹⁶ Super soldiers refer to genetically modified humans that are capable of producing super human abilities that typical humans cannot generate.¹⁷ Additionally, because of the rapid development in military technology, super soldiers can possess a variety of super human capabilities that were once considered solely fictional.¹⁸ For example, the Pentagon's Defense Advanced Research Projects Agency (DARPA) is currently researching

¹⁶ See Armin Krishnan, *Robots, Soldiers and Cyborgs: The Future of Warfare*, ROBOHUB (Feb. 5, 2014), archived at <http://perma.cc/NE3H-QL6T> (outlining the development of enhancing super soldiers for conflicts to include the War on Terror in Iraq and Afghanistan); see also Snyder, *supra* note 1 (stating that the United States military is involved in a global competition to produce "technologies of the future"); Gagnon, *supra* note 2 (inferring how military technology is among the highest priority for governments around the world).

¹⁷ See Anthony Gucciardi, *US Army: 'Super Soldier' Genetically Modified Humans Won't Need Food, Sleep*, NATURAL SOCIETY (Aug. 13, 2012), archived at <http://perma.cc/6Q46-MAET> (defining super soldiers); see also William, *FWS Topics: Super Soldiers*, FUTURE WAR STORIES (Sept. 7, 2012), archived at <http://perma.cc/X7F8-JAKB> (defining super soldiers as, "warriors built from the DNA up to something apart from other humans, with augmented bodies and enhanced training well beyond the standard soldier, and wholly designed to fight and win via serious modification to their body, spirit, and mind").

¹⁸ See Michael Burnam-Fink, *The Rise and Decline of Military Human Enhancement*, SCI. PROGRESS (Jan. 7, 2011), archived at <http://perma.cc/EG6B-M9GJ> (describing the various types of super soldier programs to address sleep, fatigue, pain, memory, learning, psychological stress, strength, and blood loss); see also Dvorsky, *supra* note 4 (stating that military technology considered creating smart drugs capable of enhancing physical and digital abilities in super soldiers). Over the next decade, smart drugs might be able to allow super soldiers to work in more extreme conditions, reduce illnesses, and even allow soldiers to perform into old age. *Id.* See also Bruce Upbin, *First Look at a Darpa-Funded Exoskeleton for Super Soldiers*, FORBES (Oct. 29, 2014), archived at <https://perma.cc/SNF9-DB63> (inferring that sci-fi movie posters helped engineers and technicians craft the exoskeleton); Andrew Clark, Note, *Does Dolly Deserve Defense? An Analysis of the Patentability of Cloned Livestock*, 15 J. HIGH TECH. L. 135, 135 (2014) (stating how the rapid developments in biotechnology have made the far-fetched idea of animal cloning a reality). Since the 19th century, the development of using science to

and prototyping a functioning exoskeleton that could allow a super soldier to run further and handle much heavier weight than the traditional soldier.¹⁹ Other various super human abilities that could be created using military technology include decreased pain receptors for the ability to withstand injuries and torture, decreased appetite to promote longer lasting missions, decreased need for sleep to prolong productivity, as well as increased stamina, strength, agility, awareness, intelligence, and health to allow a super soldier to adapt and overcome rugged and extreme situations.²⁰

B. Conventional Wars: Calling Attention to Super Soldiers

Since World War I, the methods, practices, and strategies of conventional war fighting have changed due to society's perception of the rules of engagement, organizational structure, and even the suitable levels of violence for which society can stomach.²¹ Con-

clone animals has rapidly developed leading to the first successful scientific animal cloning of Dolly the sheep in 1996 by Dr. Keith Campbell and Dr. Ian Wilmut at the Roslin Institute in Scotland. *Id.* at 135-36. *See also* Chandra Steele, *5 Ways Scientists Are Building Real-World Super Soldiers*, PCMAG (Apr. 4, 2014), archived at <http://perma.cc/UL4B-X65S> (describing how different ways in which advances in technology can help create super soldiers).

¹⁹ *See* Gucciardi, *supra* note 17 (illustrating one of the recently released secret experiments and studies that the United States Pentagon has been researching). DARPA is backed by a \$2 billion a year funding for secret research related to military technology. *Id.* Additionally, other secret experiments recently released to the public include the importation of sensitive information from aerial drones to the eyeballs of soldiers and developing helmets where soldiers could have the ability communicate telepathically. *Id.*

²⁰ *See* Lin, *supra* note 4 (describing the various types of super human abilities and why those abilities are useful in creating super soldiers). The next generation of super soldiers may be able to “eat grass, communicate telepathically, resist stress, climb walls like a lizard, and much more.” *Id.* *See also* Adli-Tabatabai, *supra* note 1 (reinforcing the aspect that if human soldiers are to be on the same platform as robots for war fighting, then these soldiers will need to be “enhanced in [a] variety of ways”). For example, soldiers of the future would be equipped with advanced exoskeletons, allowing these super soldiers to obtain endless access to sensory and cognitive enhancements. *Id.*

²¹ *See* Kenneth Payne, *What is Conventional Warfare?*, KINGS OF WAR (Jan. 3, 2012), archived at <http://perma.cc/MG2X-9TVU> (illustrating how conventional war fighting has changed throughout the years); *How Are Conventional and Unconventional Warfare Different?*, HOWSTUFFWORKS (June 1, 2011), archived at

tional wars were once focused on the main idea of destroying the enemy through killing or seizing enemy soldiers, annihilating the will of the enemy population from supporting their cause, and smashing resources used by the enemy.²² However, modern wars today are primarily focused on abiding by lawful rules of war and limiting violence.²³ With the new era of modern warfare, the call for super soldiers to serve as a country's elite killing machine and obliterate the enemy, while reducing friendly casualties (killed in action), has become a top priority.²⁴ As of December of 2014, there have been 4,412 United States Military casualties from Operation Iraqi Freedom ("OIF"), and because of these figures, the U.S. Department of Defense has heavily funded programs aimed at enhancing soldiers for warfare by altering the genetic code towards making soldiers that are

<http://perma.cc/RD2J-JYP6> (concluding that conventional means of warfare consisted of two opposing forces fighting against each other on the battlefield); *see also* Alex Roland, *The Transformation of Conventional War*, AM. DIPL., archived at <http://perma.cc/G8FV-EKT4> (describing how conventional wars have changed in the twentieth century due to the experiences of World War II). President Dwight Eisenhower warned about the ways in which wars would be fought when he stated, "public policy itself could become the captive of a scientific/technological elite." *Id.*

²² *See* Ganesh Sitaraman, *Counterinsurgency, the War on Terror, and the Laws of War*, 95 VA. L. REV. 1745, 1752-55 (2009) (discussing the difference between conventional war fighting and modern wars). Creating the laws of war were originally based on a kill or capture theory where each side sets out to destroy the other through tactical innovations. *Id.*

²³ *See id.* at 1754 (displaying that although military necessity to win wars often entails violence, under the laws of war military necessity does not allow cruelty and mandates the need for lawful means of warfare). While military necessity does not allow cruelty, permitted operations to kill-capture and mutilate enemy forces are authorized when military necessity is "incidentally unavoidable." *Id.* *See also* *Warfare*, WATSON INST. (last visited Mar. 3, 2016), archived at <https://perma.cc/X2PM-BTYC> (inferring that while powerful governments have access to nuclear weapons, non-nuclear warfare continues to be socially and politically acceptable in order to avoid prolonged conflicts and violence).

²⁴ *See* Krishnan, *supra* note 16 (inferring that utilizing super soldiers during warfare would be able to limit the percentage of casualties for low-intensity conflicts such as the War on Terror in Iraq and Afghanistan). These super soldiers would be equipped with exoskeletons that would allow for "quick[er] reaction times, precision, and strength of robotic systems and the control and superior cognitive abilities of humans." *Id.*

“stronger, smarter, and lack empathy.”²⁵ After the initial invasion of Iraq in 2003, the United States military had zero enhanced war-fighting machines, and now since 2008 there are a reported 12,000, leading towards the idea that a new era of using an army of super soldiers is on the horizon.²⁶

C. Article 35(2) of the Geneva Conventions History & Background

The world witnessed extreme violence displayed during World War II and among the Thirty Years' War, sparking a movement to fill the gaps of international laws based on the rules of war.²⁷

²⁵ See *DARPA's Next Generation of Super Zombie Soldiers*, BUS. FIN. NEWS (Aug. 31, 2015), archived at <http://perma.cc/MKB2-H5QU> (recognizing that using enhanced soldiers would outperform traditional soldiers in warfare); NESE F. DEBRUYNE & ANNE LELAND, AMERICAN WAR AND MILITARY OPERATIONS CASUALTIES: LISTS AND STATISTICS 18 (2015) (listing the total casualties of Operation Iraqi Freedom through December of 2014); see also *Iraq War*, ENCYCLOPEDIA BRITANNICA (last updated Dec. 15, 2011), archived at <https://perma.cc/9ESV-J6LJ> (defining OIF as Operation Iraqi Freedom). Operation Iraqi Freedom is the name for the war that occurred during 2003-2011 when the United States and Great Britain invaded Iraq. *Id.* This war was in response to terrorist attacks in New York on September 11, 2001. *Id.* By 2011, the United States and her allies greatly depleted insurgency-run organizations responsible for global terrorist attacks. *Id.* See also *Frequently Asked Questions*, NORTH ATLANTIC TREATY ORG. (Dec. 1, 2015), archived at <http://perma.cc/V5KU-XGQK> (declaring that the North Atlantic Treaty Organization joined the United States on September 12, 2001, because the attacks on the United States on September 11, 2001 were ultimately an attack on all NATO countries); *NATO and the 2003 Campaign Against Iraq (Archived)*, NORTH ATLANTIC TREATY ORG. (Sept. 1, 2015), archived at <http://perma.cc/5BGG-9L6L> (stating how other NATO forces joined the United States in her efforts in Iraq).

²⁶ See Patrick Lin, *Could Human Enhancement Turn Soldiers Into Weapons That Violate International Law? Yes*, ATLANTIC (Jan. 4, 2013), archived at <http://perma.cc/T38W-JTJZ> (reporting the number of enhanced war-fighting machines used in Iraq has increased to support the viewpoint that using an army of super soldiers will be the next generation of modern warfare). Between 2002-2010, the number of aerial enhanced war-fighting machines has increased 40,000 percent. *Id.*

²⁷ See Philip Spoerri, *Dir. of Int'l Law, Int'l Comm. of the Red Cross, The Geneva Conventions of 1949: Origins and Current Significance* (Dec. 8, 2009) (stating how the distinguished violence from multiple wars led to a decision to draft the Geneva Conventions of 1949); see also *Thirty Years' War*, HIST. (2009), archived at <http://perma.cc/XZB5-4SKN> (stating the Thirty Years' War marked the “worst catastrophe” to affect Germany until World War II). An estimated 20 percent of Ger-

Dating back nearly 66 years ago, the original draft of the Geneva Conventions has undergone various amendments specifically designed to protect the civilian population from the vicious effects caused by the outbreaks of war.²⁸ The nasty rigors of the Second World War were responsible for 28 million civilian deaths and the Thirty Years' War contributed to a 50% decline in the civilian population.²⁹ The unprecedented amounts of bloodshed from the civilian

many's total population had perished due to the Thirty Years' War. *Id.* Additionally, as much as 50 percent of the population in other regions of Germany had also been lost due to the war. *Id.* Numerous villages, towns, and cities had their civilian population, manufacturing, and trade industries significantly decline. *Id.* See also *World War II History*, HIST. (2009), archived at <http://perma.cc/6Y6C-59JR> (stating that World War II was "the most devastating international conflict in history"). World War II was responsible for the deaths of an estimated 35-60 million people. *Id.* Included in these casualties were the deaths of 6 million Jews. *Id.* Millions more were injured and the aftermath of World War II can still be felt across Europe and into Asia. *Id.*

²⁸ See Spoerri, *supra* note 27 (noting that since the 1949 the Geneva Conventions has been ratified to better protect the civilian population from the harmful effects of war). These ratifications include the amendments of 1977, which state in Article 35:

1. In any armed conflict, the right of the parties to the conflict to choose methods or means of warfare is not unlimited.
2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.
3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.

Id.

Article 35: Basic Rules, *supra* note 12 (detailing the basic rules of Article 35); see also *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, INT'L COMMITTEE RED CROSS, archived at <http://perma.cc/PW97-GTFR> (commentating on how the provisions of Article 35 were set in order to provide a balance between what a country believe is a military necessity during a time of war or armed conflict and the protection of humanity during that war or armed conflict).

²⁹ See Matthew White, *Source List and Detailed Death Tolls for the Primary Mega-deaths of the Twentieth Century*, NECROMETRICS (Feb. 2011), archived at <http://perma.cc/LLE6-TU3T> (noting the civilian death tolls caused by World War II); see also C N Trueman, *Population and the Thirty Years War*, HIST. LEARNING SITE (last updated Nov. 5, 2015), archived at <http://perma.cc/YE8Z-QXPK> (highlighting the decline in the civilian population caused by the Thirty Years' War).

population during these two wars helped to launch the signing of the Geneva Conventions, which focused on protecting sick and wounded soldiers, prisoners of war, and civilians during times of war.³⁰ The drafting and implementation of the Geneva Conventions in 1949 led to 18 governmental delegations signing the highly historic document, symbolizing a milestone in international humanitarian law.³¹ Additional amendments and protocols were added to the Geneva Conventions essentially to voice a response to the rapid changes in warfare tactics currently being used around the world, including the “expansion of guerrilla warfare, and the increased suffering of civilians in armed conflict due in part to developments in weapons technology.”³²

The phrase known as “the laws of war” describe and relate to international humanitarian law (“IHL”) that governs how wars and armed conflicts are supposed to be fought.³³ The laws of war are used to set limits on the effects of international armed conflicts, whereas the Geneva Conventions of 1949, are used to “safeguard combatants, or members of the armed forces, who are wounded, sick or shipwrecked, prisoners of war, and civilians, as well as medical personnel, military chaplains and civilian support workers of the military.”³⁴ The Additional Protocols of 1977 of the Geneva Conventions gear towards protecting civilian victims of war and apply in all

The devastating effects of the Thirty Years War led to plague and famine causing a mystery as to the exact number in the decline of the civilian population. *Id.*

³⁰ See Spoerri, *supra* note 27 (illustrating that the utter violence caused by the outbreaks of war launched the signing of the Geneva Conventions in 1949).

³¹ See Spoerri, *supra* note 27 (describing how additional governmental entities also signed the Geneva Conventions in order to better protect civilians).

³² See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June, 1977, *supra* note 28 (stating the amendments that were added to the Geneva Conventions of 1977); Spoerri, *supra* note 27 (explaining how the increased suffering of the civilian population due to new developments in hostile methods of warfare led to additional amendments to the Geneva Conventions in 1977).

³³ See *Summary of the Geneva Conventions of 1949 and Their Additional Protocols*, AM. RED CROSS 1 (Apr. 2011), archived at <http://perma.cc/66PN-BEYQ> (summarizing the laws of war). The laws of war are specifically designed to protect individuals who are no longer involved in the hostilities of war or armed conflict. *Id.*

³⁴ See *id.* (describing the difference between International Humanitarian law and the Geneva Conventions); Patrick Farrell, *What is the Geneva Convention?*, HIST. NEWS NETWORK (2002), archived at <http://perma.cc/823A-8TPC> (noting that the Geneva Conventions of 1949

instances of declared war or in any other armed conflict among nations.³⁵ Additionally, the protection of civilians extends to include any nation where there is a war or armed conflict and there is no armed resistance to that war or conflict.³⁶ Since the enactment of Additional Protocol II, 164 Nations are parties to the legal instrument sought to protect the civilian population during times of war and armed conflict, making Additional Protocol II of the Geneva Conventions the most widely acknowledged legal document in the world.³⁷ Unlike the original drafts of the Geneva Conventions, Additional Protocol II and Article 35(2) expand the protection of victims grasped in the twists of the violent effects caused by war and armed conflicts, to

encompasses the protection of various types of individuals that may be affected by war or armed conflict); *see also Geneva Convention an Introduction*, PEACE PLEDGE UNION, *archived at* <http://perma.cc/82Q6-DRWX> (describing the in depth protection afforded to civilians during outbreaks of war and armed conflicts). Civilians affected by war must be treated humanely, protected against violence, and entitled to respect. *Id.* Children, expectant mothers, elderly, wounded and sick should be specially protected in safety in zones. *Id.* Protected civilians cannot be discriminated against, used to shield military operations, punished for offenses that he or she did not commit, raped, or forced into prostitution. *Id.*

³⁵ *See Summary of the Geneva Conventions of 1949 and Their Additional Protocols*, *supra* note 33, at 2 (recognizing all instances where the Additional Protocols of 1977 in the Geneva Conventions apply in order to protect civilian victims); *Protocols I and II additional to the Geneva Conventions*, INT'L COMMITTEE RED CROSS (Jan. 1, 2009), *archived at* <http://perma.cc/HZ4J-N9MB> (stating that the main reason for adding Additional Protocols I & II was to make a more universal law of war and to adapt to the modern aspects of war and armed conflict).

³⁶ *See Summary of the Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 33, at 4 (providing additional criteria where civilians affected by the rigors of war are protected); *Protocols I and II additional to the Geneva Conventions*, *supra* note 35 (expressing that the key feature of Additional Protocols I & II was to distinguish the difference between civilians and combatants so that civilians could not be targeted during wars and armed conflicts).

³⁷ *See Spoerri*, *supra* note 27 (outlining the global recognition of Additional Protocol II of the Geneva Conventions as the "most widely accepted legal document"); *see also Protocol (II) Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts*, WORLD INTELL. PROP. ORG., *archived at* <http://perma.cc/XD3Y-6WY6> (listing multiple Nations that have adopted Additional Protocol II of the Geneva Conventions). These nations include Argentina, Austria, Canada, Egypt, France, Holy See, Ireland, Liechtenstein, Malta, Namibia, Oman, Palestine, Russian Federation, and the United Arab Emirates. *Id.*

include civil wars and “high-intensity internal conflicts.”³⁸ Overall, Article 35(2) of the Geneva Conventions establishes a well-founded legal nucleus for the protection of war victims in the civilian population and prohibits the use of weapons that “cause superfluous injury or unnecessary suffering.”³⁹

III. Facts

“Soldiers having no physical, physiological, or cognitive limitation will be key to survival and operational dominance in the future.”⁴⁰ However, despite these potentially successful and beneficial

³⁸ See *Summary of the Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 33, at 6 (addressing the expansion of Additional Protocol II).

³⁹ See *Summary of the Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 33, at 5 (noting the prohibition of certain weapons under Article 35(2) of the Geneva Conventions); Spoerri, *supra* note 27 (explaining how Article 35(2) serves to protect victims of war and armed conflict); *Article 35: Basic Rules*, *supra* note 12 (listing article 35(2) as the rule prohibiting certain methods of warfare), see also *Superfluous Injury or Unnecessary Suffering*, WEAPONS LAW ENCYCLOPEDIA (Nov. 30, 2013), archived at <https://perma.cc/6KK2-3KQ7> (defining what the terms “superfluous injury” and “unnecessary suffering” mean).

Three main criteria are commonly used to assess the level of suffering: the intensity of the pain, the degree of permanent disability, and the likelihood of death. Furthermore, suffering is considered the product of both physiological and psychological elements. Consequently, suffering can continue (for instance, in case of loss of a limb), even when the pain has gone. In the St. Petersburg Declaration, the term ‘suffering’ seemed to embrace the logic of excessiveness (needlessly aggravating the suffering of soldiers) and it remains a key component when considering the effects of a weapon, despite the fact that the term injury was seen as more quantifiable and objective.

Id.

⁴⁰ See Annie Jacobsen, *Engineering Humans for War*, ATLANTIC (Sept. 23, 2015), archived at <http://perma.cc/X7DF-46WC> (noting that in order for super soldiers to be successful war fighters in the future, certain limitations would need to be eliminated). Three areas that have been shown to slow traditional soldiers down while conducting operations during war include pain, injuries, and excessive bleeding.

Id. The Director of the United States Defense Sciences Office hired a biotechnology firm to create a pain vaccine that would “reduce the pain triggered by inflammation and swelling” due to gunshot wounds. *Id.* The intended result of receiving the vaccine would allow a soldier to experience only ten to thirty seconds of pain from a gunshot wound, but then be pain free for thirty days. *Id.* See also Steve

abilities that super soldiers may acquire one day, it is also possible that these enhanced super soldiers would no longer resemble human beings.⁴¹ The risk of these super soldiers separating from human intuitions is that it could lead to indiscriminate killings through the inability to distinguish between a civilian and an enemy combatant during times of war or armed conflict.⁴² By creating and enhancing super soldiers to be used as elite war fighting machines, the “existing ethical, customary, and legal norms of warfare as inscribed . . . [within] the Geneva Conventions” will quickly diminish.⁴³ Moreover, while no one can know for certain how the Geneva Conventions will carve out legal implications for super soldiers in the future, some of these technologies that could be infused with soldiers raise serious ethical issues that may require an amendment to the laws of war.⁴⁴

Connor, *Future Soldiers Could Be Protected Against Germ Warfare by Genetically Modified Blood Cells*, INDEP. (June 30, 2014), archived at <http://perma.cc/G5NT-2RP7> (describing how scientists have engineered genetically blood transfusions so that enhanced soldiers would be protected against biological germ warfare from enemy combatants). The US Defense Advanced Research Projects Agency has supported this research, where classified testing in developing specific military technology for treatments and vaccines against biological weapons has been ongoing. *Id.*

⁴¹ See Jacobsen, *supra* note 40 (stressing the importance that although enhanced abilities of super soldiers could be beneficial, there are serious threats that could drastically effect the civilian population).

⁴² See Jacobsen, *supra* note 40 (illustrating how isolating super soldiers from their natural instincts could lead to the unnecessary and unwarranted killings of innocent civilians). Using military technology to enhance soldiers could change the contour of the average soldier, leaving a mystery as to how these super soldiers would actually perform under the harsh conditions of war. *Id.*

⁴³ See Jacobsen, *supra* note 40 (describing how creating super soldiers would deviate from the currently existing limitations that the laws of war and Geneva Conventions prescribe for wars and armed conflicts).

⁴⁴ See Jacobsen, *supra* note 40 (acknowledging how the Geneva Conventions and the laws of war did not foresee the potential for super soldiers to be used in future wars and therefore the possibility of an amendment to specifically address super soldiers may be required in order to avoid ethical issues and war crimes). Past interpretations of the terms “excessive harm,” “unnecessary suffering,” and “superfluous injury” may need to be reevaluated in order to specifically target, set limitations on, and address the use of super soldiers during war and armed conflicts. *Id.*

A. *Vagueness of the Geneva Conventions*

Despite the several amendments to the Geneva Conventions, there have been no legislative amendments governing the use of super soldiers or enhanced humans during war or armed conflicts.⁴⁵ In 1977, an amendment called Protocol II, was added to the Geneva Conventions in order to better protect civilian victims of war and armed conflict.⁴⁶ Included in this amendment was Article 35(2), which specifically prohibits the use of certain means of warfare that is of a “nature to cause superfluous injury or unnecessary suffering.”⁴⁷ Currently, military leaders are afraid to carry out certain military operational plans surrounding super soldiers for fear that these leaders would be tried as war criminals because of the present legislation within the Geneva Conventions.⁴⁸ Additionally, because of the existing wording within the Geneva Conventions, the White House has asked Congress to clarify the exact meaning of the language in order to implement the laws of war more effectively.⁴⁹ Ultimately, a

⁴⁵ See Dvorsky, *supra* note 4 (stating how the Geneva Conventions neither explicitly nor implicitly prohibits the use of enhanced soldiers during times of war or armed conflict). The Geneva Conventions was written in a time where the idea of using enhanced soldiers had not been thought of and therefore no limitations or prohibitions on using enhanced soldiers was ever created within the law of war. *Id.*

⁴⁶ See *Summary of the Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 33, at 7 (detailing that a need for better protection of civilian victims during times of war and armed conflict was the main reason for adding and implementing Protocol II).

⁴⁷ See *Article 35: Basic Rules*, *supra* note 12 (dictating specific means of weaponry are prohibited from being utilized during times of war and armed conflict).

⁴⁸ See Lionel Beehner, *The United States and the Geneva Conventions*, COUNCIL ON FOREIGN REL. (Sept. 20, 2006), archived at <http://perma.cc/5Q37-LLW5> (inferring that although the Geneva Conventions does not specifically mention super soldiers, the vagueness of the Geneva Conventions is enough to keep leaders from utilizing them for fear of tried as a war criminal); see also David Fickling, *Geneva Conventions Vague, Says Bush*, GUARDIAN (Sept. 15, 2006), archived at <http://perma.cc/H4ZA-86UV> (mentioning how United States President stated that the Geneva Conventions was vague and demanded that Congress take further action to amend the laws of war).

⁴⁹ See Amanda Carpenter, *Congress Confused on Who Interprets Geneva Conventions for U.S.*, HUMAN EVENTS (Sept. 25, 2006), archived at <http://perma.cc/52LH-56JZ> (suggesting that prior legislation could help Congress interpret certain parts of the Geneva Convention that was considered too vague). The call for Congress to clarify ambiguities within the Geneva Conventions was ultimately denied because it was argued that clarifying the Geneva Conventions would allow enemy combatants to abuse and violate certain parts of the Geneva Conventions without the fear

further look into the language within Article 35(2) is required in order to determine if this specific article is unconscionably vague.⁵⁰

B. Laws Prohibiting Super Soldiers

Some governmental officials of the United States believe that the best way to better prepare for the rapid increase in military technology is to implement policies and procedures as soon as possible.⁵¹ Despite previous calls upon Congress to clarify and amend the Geneva Conventions to include newer means of war fighting, the Pentagon's DARPA has since seized the opportunity to exploit and enhance soldiers to become more elite killing machines.⁵² Initial test rollouts by DARPA projected that enhancing soldiers with microchips could occur as early as 2019.⁵³ These microchips have shown

of being held accountable. *Id.* See also Charles Babington & Michael Abramowitz, *U.S. Shifts Policy on Geneva Conventions*, WASH. POST (July 12, 2006), archived at <http://perma.cc/4LF6-D2QV> (describing how the United States felt the need for clarification on the vagueness of the Geneva Conventions because of the potential for vulnerabilities to the United States military). After September 11, 2001, President Bush declared that terrorists were not protected under the laws of the Geneva Conventions, displaying a powerful example of how the vagueness of the Geneva Conventions can be used during times of war and armed conflict. *Id.* Since 2002, the Bush Administration has voiced concerns that the Geneva Conventions are too vague and could expose the United States military into second-guessing itself in implementing military operations. *Id.*

⁵⁰ See *infra* section IV.

⁵¹ See David Axe, *Military Must Prep Now For 'Mutant' Future, Researchers Warn*, WIRED (Dec. 31, 2012), archived at <http://perma.cc/9ME3-23MX> (stating how the advances in military technology towards developing enhanced soldiers has so much momentum that the only to limits the use of these enhanced soldiers is to start creating legislation). Since the 1970s, the United States has been targeting the development of hallucinogenic weapons without fully understanding the effects the drugs might have on the enhanced soldiers. *Id.* From these experiments, the United States Pentagon blindly gave soldiers lysergic acid diethylamide (LSD) before concluding the full effect the drug would have. *Id.*

⁵² See *Engineering Humans for War: Inside the Pentagon's efforts to create super-soldiers*, OSNET DAILY (Sept. 29, 2015), archived at <http://perma.cc/9BNW-EKL9> (detailing the various experiments that DARPA has performed in search of creating different enhancement for super soldiers). Since 1958, DARPA has sought to develop a vast array of weapons to help the United States win wars. *Id.* The newest experiment DARPA has created includes an "integrated-powered exoskeleton" capable of transforming a weak soldier into an elite killing machine. *Id.*

⁵³ See Mia De Graff, *Micro-chipped super soldiers are ALREADY a reality, book claims: Implants to combat PTSD and make military more resilient to warfare*

success in treating Parkinson's disease and have been hypothesized to treat abnormal brain patterns in enhanced soldiers.⁵⁴ Since there are no clear laws or legislation prohibiting the development and implementation of super soldiers, many countries have long been in the global race to create the ultimate super soldier.⁵⁵ With the lack of legislation surrounding super soldiers, governments have been slow to draft and apply new amendments to the Geneva Conventions because these legal loopholes allow governments to conduct controversial operations involving enhanced soldiers.⁵⁶

Due to a lack of specificity within the Geneva Conventions relating to military enhancement of super soldiers, the idea of "informed consent" does not apply to military service.⁵⁷ Top military officials, along with military physicians, view the right to enhance soldiers in terms of three different models: medical, research, and

could be rolled out within a couple of years, DAILY MAIL (Sept. 25, 2015), archived at <http://perma.cc/Z6JP-TBJ5> (claiming that military advances in enhancing soldiers would correct abnormal brain functions that are typically found in soldiers effected by the traumatic endeavors of war).

⁵⁴ See *id.* (stating that since microchips have performed well in treating another brain disease, then microchips would also help treat certain physiological disorders in super soldiers).

⁵⁵ See Snyder, *supra* note 1 (acknowledging that there is a global race to create the ultimate super soldier among top military officials); see also *MK-ULTRA Super Soldier Assassin Set The Stage For Global Depopulation—This means You, Useless Eater*, BEFORE IT'S NEWS (Sept. 3, 2015), archived at <http://perma.cc/E37C-JCCL> (mentioning that creating the ultimate super soldier would be a military commander's dream come true).

⁵⁶ See JAI GALLIOTT & MIANNA LOTZ, SUPER SOLDIERS: THE ETHICAL, LEGAL AND SOCIAL IMPLICATIONS 75-76 (Jai C. Galliot & Mianna Lotz eds., 2015) (inferring that various governments have not updated the Geneva Conventions surrounding the use or prohibition of super soldiers). Governments involved with controversial operations involving super soldiers do not want their agendas publicly discussed or examined in a courtroom. *Id.* at 75.

⁵⁷ See Dvorsky, *supra* note 4 (inferring that the medical code of ethics towards civilians do not apply to military soldiers). Since there are no codes of ethics relating to informed consent for military soldiers, the military has the right to enhance soldiers. *Id.* See also *Waiving Informed Consent: Military Use of Non-FDA—Approved Drugs in Combat*, RAND CORP. (2000), archived at <http://perma.cc/S9J8-CC5> (describing the term "informed consent" as the requirement that a doctor must obtain a patient's permission before conducting specific medical interventions). Although doctors are required to receive informed consent, military doctors who are performing experimental medical intervention may waive informed consent if necessary. *Id.*

public health.⁵⁸ The medical model includes informed consent where the highest responsibility is towards the patient.⁵⁹ Under the research model, the military is more concerned with expanding its overall knowledge of medical research, rather than prioritizing the protection of patients.⁶⁰ Lastly, the public health model demonstrates the military's goal of protecting the public instead of the individual soldier. The public health model best describes the military's view on enhancing soldiers.⁶¹ Although regular nonmilitary civilians do have individual rights, the individual rights of a military soldier are outweighed by the need to create the ultimate super soldier for success on the battlefield.⁶² As of right now humans are technically not considered weapons, drawing the attention of many different countries to create enhanced super soldiers with the idea that weaponized humans will also not be considered weapons under the Geneva Conventions.⁶³

⁵⁸ See Dvorsky, *supra* note 4 (describing the three different medical models used by physicians towards patients). The Greenwall Foundation examined the legal and ethical considerations surrounding enhancing military soldiers and described three different medical models to best describe how the military can bypass individual rights to create super soldiers. *Id.*

⁵⁹ See Dvorsky, *supra* note 4 (describing the medical model of informed consent). Under the medical model, the military physician's sole responsibility to put the "patient first and foremost." *Id.*

⁶⁰ See Dvorsky, *supra* note 4 (illustrating the differences between the medical and research models). The medical and research models show the shift in responsibility and priority from the well-being of the patient to the gathering of critical information and knowledge. *Id.*

⁶¹ See Dvorsky, *supra* note 4 (relating how the public health models best describes how the military feels about enhancing soldiers). The public health model is typically used during emergencies, quarantine, or mass pandemic where the military's goal of protecting and ensuring the survival of the civilian population outweighs individual rights. *Id.*

⁶² See Dvorsky, *supra* note 4 (inferring that military soldiers have a lack of individual rights that allows the military to enhance soldiers without needing individual consent).

⁶³ See Lin, *supra* note 26 (stating how humans do not qualify as prohibited means of warfare under the Geneva Conventions). Although soldiers are warfighters and the oldest form of a weapon, currently humans are not considered weapons within the context of the laws of war. *Id.*

C. *Dangerousness of Using Super Soldiers*

Infusing enhanced abilities within ordinary soldiers and using those enhanced soldiers as killing machines could qualify as a prohibited means of warfare due to the hazardous persona the enhanced soldiers would have to cause unnecessary killings and suffering.⁶⁴ The idea of creating overly dangerous super soldiers is entirely possible through the Pentagon's DARPA.⁶⁵ Through this agency, genetic modifications would create super soldiers with modified brain functions with no ability to show emotion.⁶⁶ From a lack of emotion, specifically mercy, super soldiers would fight without fear, destroy without humane considerations, and even kill without differentiating between friend and foe.⁶⁷ Back in 2009, while the United States had sent 30,000 troops to Afghanistan in support of Operation Enduring Freedom (OEF), DARPA researchers were experimenting with enhanced pigs by making the pigs "semi-undead."⁶⁸ These "zombie"

⁶⁴ See PATRICK LIN ET AL., ENHANCED WARFIGHTERS RISK, ETHICS, AND POL'Y 30-31 (2013), archived at <http://perma.cc/3DLN-WFF3> (describing how super soldiers could be prohibited by the Geneva Conventions as a means of warfare). Providing a super soldier with a particular enhanced ability could be rendered illegal if the soldier would be likely to become inhumanely violent or aggressive. *Id.* at 31.

⁶⁵ See Paul A. Philips, *DARPA Genetically Modified Humans for a Super Soldier Army*, SLEUTH J. (Oct. 17, 2015), archived at <http://perma.cc/4WV6-GLZE> (theorizing that if the emotional side of super soldiers are modified then future wars would ultimately become more dangerous).

⁶⁶ See *id.* (stating that DARPA is capable of creating super soldiers that lack specific emotions). Super soldiers operating during times of war and armed conflict without emotions would essentially create soldier zombies. *Id.*

⁶⁷ See *id.* (illustrating the drastic and violent effects super soldiers would project if the emotional aspect was destroyed). Using mutant super soldiers with a lack of emotions would make future wars completely different. These mutant genes would make super soldiers smarter, faster, but also less humanely responsive. *Id.*

⁶⁸ See J. D. Heyes, *DARPA Rumored to Be Genetically Modifying Humans to Create Zombie Super Soldiers*, NAT. NEWS (Sept. 16, 2015), archived at <http://perma.cc/3WCY-3T2S> (reporting one of the many secret experiments run by DARPA in an effort to create super soldiers). The goal of DARPA is to create the ultimate super soldier by genetically modifying DNA code through research and experimentation. *Id.* The term "semi-undead" refers to something closely related to zombies. *Id.* Semi-undead soldiers would be able to withstand massive blood-loss from potentially fatal wounds because of restricted blood vessels in the body. *Id.* See Damien Gayle, *Army of the Future: Soldiers Will be Able to Run at Olympic Speed and Won't Need Food or Sleep with Gene Technology*, DAILY MAIL (Aug. 12, 2012), archived at <http://perma.cc/NF49-H9W7> (discussing how DARPA is modifying the genetic make-up of humans to create super soldiers).

pigs were a trial experiment to see if diminished emotions and restricted blood loss were possible to recreate in humans in order to genetically craft “zombie soldiers” capable of various unforeseen abilities.⁶⁹

As of September 2014, roughly 20 percent of the estimated 2.7 million United States military veterans returning from the Iraq and Afghanistan wars suffer from Post-Traumatic Stress Disorder

DARPA is working on creating GMO (genetically modified organisms) soldiers where a soldier’s body will be able to go great lengths without eating food by converting stored body fat into fuel. *Id.* With soldiers carrying less food during combat operations, soldiers would have a higher capacity for ammo, weapons, and medical supplies. *Id.* See also *Operation Enduring Freedom Fast Facts*, CNN (Sept. 30, 2015), archived at <http://perma.cc/XTC8-2BWR> (defining OEF as Operation Enduring Freedom). Operation Enduring Freedom (OEF) began on October 7, 2001 in response to the terrorist attacks in New York City on September 11, 2001. *Id.* This operation was designed to stop the Taliban’s assistance to al Qaeda in Afghanistan. *Id.* December 28, 2014 marked the end of OEF when the Commander of the International Security Assistance Force held a ceremony ending the coalition involvement in Afghanistan. *Id.*

⁶⁹ See Heyes, *supra* note 68 (describing how scientists could use gene therapy to shut effectively off the specific part of the brain responsible for controlling empathy and mercy humans). By effectively disconnecting empathy and mercy from the brain, a super soldier would essentially be heedless toward fear, fatigue, and emotions. *Id.* See also Menchie Mendoza, *DARPA Investing \$32M into DNA Manufacturing: Super Soldiers on the Way?*, TECH TIMES (Sept. 26, 2015), archived at <http://perma.cc/N5A8-RWHC> (reporting how DARPA funded \$32 million to a company called Foundry). Foundry was tasked by DARPA to create and produce genetically engineered materials specifically for bioengineering of humans. *Id.* The goal of DARPA to engineer the ultimate super soldier coupled with the multi-million dollar contract with Foundry has led to how:

Society relies on many products from the natural world that have intricate material and chemical structures, from chemicals such as antibiotics to materials like wood . . . [w]e’ve been limited in our ability to program living cells to redesign these products. I want to change the scale of genetic engineering to access anything biology can do . . . [m]ore than just being focused on the engineering of any mammal’s genome, the project was specifically launched for the bioengineering of humans.

Id.

(PTSD).⁷⁰ Back in 2012, DARPA started piloting projects for the biological tampering and gene modification of military soldiers to help combat the effects of PTSD.⁷¹ However, reports have surfaced that DARPA's plan to help military veterans extend far beyond simply treating PTSD and depression.⁷² The projects DARPA started stretched as far as using the same gene therapy to treat PTSD to monitor and remotely control these enhanced soldiers by applying "deep brain stimulation" during combat in real time.⁷³ Due to remote con-

⁷⁰ See *Veterans statistics: PTSD, Depression, TBI, and Depression*, VETERANS AND PTSD (Sept. 20, 2015), archived at <http://perma.cc/3CDQ-Y8KV> (giving statistical data relating to military veterans suffering from PTSD).

Among male and female soldiers aged 18 years or older returning from Iraq and Afghanistan, rates range from 9% shortly after returning from deployment to 31% a year after deployment. A review of 29 studies that evaluated rates of PTSD in those who served in Iraq and Afghanistan found prevalence rates of adult men and women previously deployed ranging from 5% to 20% for those who do not seek treatment, and around 50% for those who do seek treatment.

Id.

See also *PTSD: National Center for PTSD*, U.S. DEP'T VETERANS AFF. (Aug. 13, 2015), archived at <http://perma.cc/3S5P-F4T4> (stating that the amount of military veterans returning from Operations Iraqi Freedom ("OIF") and Enduring Freedom ("OEF") suffering from PTSD is between 11-20%).

⁷¹ See Andrew Curtiss, *Captain American and Super Soldiers – Are We Ready for What DARPA Has in Store?*, EXAMINER.COM (Apr. 8, 2014), archived at <http://perma.cc/QN58-E2VK> (providing a detailed governmental project aimed at helping military veterans suffering with PTSD through gene modification). The plan of helping military veterans stems towards formulating a method of monitoring enhanced soldiers in combat through the gene therapy used treat the PTSD symptoms. *Id.* This gene therapy would not only help treat PTSD, but also allow the military to control and stimulate the brains of soldiers during combat. *Id.*

⁷² See *id.* (inferring that DARPA's plan to help military veterans with PTSD symptoms was a front for the real agenda to create super soldiers). The plan extending beyond helping veterans with PTSD includes applying "deep brain stimulation" in order to monitor and control enhanced soldiers during war and armed conflict. *Id.*

⁷³ See *id.* (stating that DARPA would use "deep brain stimulation" to remotely control enhanced soldiers during war).

. . . DARPA operates many black projects that we may never know about and it can be safe to assume that the ones we do

trolled, enhanced military technology, over tens of thousands of innocent civilians have perished.⁷⁴ By the year 2050, humans could no longer be making the decisions during times of war, but rather these decisions would be made by military enhanced robots and super soldiers.⁷⁵

know about; we only know about because that technology is already in the fielding stage. The danger of agencies like this, are that the scientists and the subject matter experts developing the new technology are not overly concerned with the moral and philosophical aspects of creating the technology. The perfect example of this is the concept of Trans Human Super Soldiers. Originally DARPA intended on creating Human Chimaras with genes from humans and animals in the name of creating a more efficient soldier. This resulted in the creation of S.659 -- Human Chimera Prohibition Act of 2005. DARPA's next step to get around this will be the combination of man and machine.

Id.

⁷⁴ See Muhammad Idrees Ahmad, *Death from Above, Remotely Controlled: Obama's Drone Wars*, THESE TIMES (July 9, 2015), archived at <http://perma.cc/U8KP-HAJ2> (reporting various accounts of when innocent civilians have died due to military technology). In 1991, over 400 innocent civilians were killed when a military laser-guided missile struck and blew up a shelter in Baghdad. *Id.* Since the war in the Middle East has started, over 30,000 Pakistan civilians have died due to the use of enhanced military technology. *Id.* See also William Saletan, *In Defense of Drones*, SLATE (Feb. 19, 2013), archived at <http://perma.cc/CN7X-R25U> (stating that over 50,000 North Vietnamese civilians were killed due to advanced technology of aerial bombing during the Vietnam War); Margit Bussman & Gerald Schneider, *You Might Think the Geneva Conventions Protects Civilians, or That the Red Cross Does, Think Again.*, WASH. POST (Oct. 8, 2015), archived at <https://perma.cc/7TUI-RCDS> (claiming that as more nations sign into the Geneva Conventions, more civilian deaths will increase, rather than decrease).

⁷⁵ See Patrick Tucker, *In the War of 2050, the Robots Call the Shots*, DEF. ONE (July 22, 2015), archived at <http://perma.cc/EQN2-URAW> (projecting that if the push for an increase in military development continues, then the rational decision-making of humans will be replaced by automatic responses from robots and super soldiers during times of war). According to a report produced by the U.S. Defense Department, the U.S. Army Research Lab, the Institute for Defense Analysis, and the National Security Administration, warzones of the future would be populated with super soldiers enhanced with physical and mental capabilities and fewer humans. *Id.* These super soldiers would be fighting side by side with machines, possessing automated responses for decision-making on the battlefield. *Id.* See also Douglas A. Ollivant, *What War Has in Store*, CNN (Feb. 24, 2015), archived at <http://perma.cc/E7HR-DP33> (inferring that future wars will include cyberwarfare and drones).

IV. Analysis

The preceding sections delivered an introduction to some of the apprehensions and benefits of utilizing super soldiers during times of warfare as weapons.⁷⁶ The succeeding sections will analyze the ambiguity within the Article 35(2) of the Geneva Conventions and whether utilizing enhanced soldiers as warfighting machines violate the laws of war, as well as international law. This Note will conclude that there are potentially positive aspects in implementing super soldiers during times of war as killing machines, and that the theoretical collateral damage of causing “superfluous injury or unnecessary suffering” to enemy combatants and civilians should not be enough to violate Article 35(2) of the Geneva Conventions.⁷⁷

A. *Civilians v. Enemy Combatants – Geneva Conventions*

While civilians and military soldiers are both affected by the travesties of warfare, whether it be purposeful or collateral damage, neither civilians nor military soldiers are specifically carved into Article 35(2) of the Geneva Conventions in order to determine whether a particular piece of weapon is prohibited.⁷⁸ Since the 2003 invasion into Iraq, over 120,000 civilians have been killed due to various means of warfare from the North Atlantic Treaty Organization (NATO).⁷⁹ However, military technology, specifically drone attacks, has only killed half as many civilians compared to traditional means

⁷⁶ See *supra* sections II-III.

⁷⁷ See *Article 35: Basic Rules*, *supra* note 12 (quoting the specific language within Article 35(2) of the Geneva Conventions).

⁷⁸ See *Geneva Convention Relative to the Protection of Victims of International Armed Conflicts art. 35(2)*, June 8, 1977, *supra* note 12 (displaying that Article 35(2) of the Geneva Conventions does not prohibit weapons based on a “nature to cause superfluous injury or unnecessary suffering” specifically towards civilians or military soldiers, but rather prohibits weapons specifically based on the weapon itself and not who the weapon is used on).

⁷⁹ See Saletan, *supra* note 74 (describing the volume of civilian deaths that occurred in Iraq alone stemming from the 2003 invasion); see also *Frequently Asked Questions*, *supra* note 25 (explaining that the North Atlantic Treaty Organization (NATO) is an alliance of 28 different countries throughout North America and Europe). NATO was signed on April 4, 1949 and is committed to protecting the freedom of the countries within the treaty by any political or military means necessary. *Id.*

of warfare and suicide bombings.⁸⁰ Additionally, since 2006, military technology utilizing drone attacks have killed only 150 civilians, versus the estimated 2,500 enemy combatants within al-Qaida and the Taliban that had been killed by the same method.⁸¹ From this, it can be inferred that an effort to limit civilian casualties has been made by utilizing military technology in order to more effectively target and eliminate enemy combatants.⁸²

Critics claim that increased deaths, specifically of civilians, enemy combatants, or military soldiers, is the concern that prohibits a particular weapon under Article 35(2) of the Geneva Conventions.⁸³ However, the more real interpretation of the laws of war is that any weapon capable of, or resulting in, “superfluous injury or unnecessary suffering,” regardless of who the victim is, would be considered

⁸⁰ See Saletan, *supra* note 74 (asserting that the increased developments in military technology has led to a decrease in civilian casualties). The average civilian death rate during the Iraq War was roughly 15%, however, between 2010 and 2012, the average civilian death rate was lowered to about 6%. *Id.* See also *How Are Conventional and Unconventional Warfare Different?*, *supra* note 21 (defining traditional means of warfare as weapons that do not contain nuclear, chemical, or biological agents). Unconventional warfare, however, refers to weapons that are specifically designed to target both civilians and members of the military, as well as methods that include utilizing Special Forces of the military to eliminate enemy forces. *Id.*

⁸¹ See Saletan, *supra* note 74 (inferring that there had been a higher death rate of military combatants compared to civilians when the same method of enhanced military technology had been used on various occasions). From 2010 to 2012, there were 48 civilian deaths, compared to roughly 1,500 enemy combatant deaths creating a civilian death rate of merely 3%. *Id.*

⁸² See Saletan, *supra* note 74 (noting that more civilian deaths are attributed to traditional methods of warfare, rather than enhanced military technology). According to Saletan:

. . . [military technology] kill[s] a lower ratio of civilians to combatants than we’ve seen in any recent war. Granted, many civilians in Iraq, Afghanistan, and other such wars were killed by our enemies rather than by us. But that’s part of the equation. One reason to prefer [military technology] is that when you send troops, fighting breaks out, and the longer the fighting goes on, the more innocent people die. [Military technology is] like laparoscopic surgery: They minimize the entry wound and the risk of infection.

Id.

⁸³ See Bussman & Schneider, *supra* note 74 (inferring that particularly when the death toll of civilians increase, a stand to prohibit certain means of warfare ensues).

a prohibited weapon under Article 35(2).⁸⁴ The threshold of lawfully killing, accidentally killing, or causing unnecessary suffering revolves around the notion of whether an individual inflicted more force than was required in order to eliminate the threat for both civilians and enemy combatants.⁸⁵ The laws of war kept Article 35(2) within a certain degree of ambiguity so that the provision could be a living, breathing document to withstand the tests of time and ensure better protection of civilians and military soldiers.⁸⁶ Although the terms “civilians”, “military soldiers”, or “enemy combatants” are not specifically mentioned, stated, or used within Article 35(2), a weapon potentially deemed prohibited should not be weighed based upon which has the higher casualties, but rather whether the weapon is of a nature to cause “superfluous injury or unnecessary suffering.”⁸⁷

B. *The Right to Enhance Soldiers*

Article 35 of the Geneva Conventions, applicable to any country who agrees to this international document, states:

Article 35 – Basic Rules

1. In any armed conflict, the right of the parties to the conflict to choose methods or means of warfare is not unlimited.

⁸⁴ See Dvorsky, *supra* note 4 (stating that the idea of an enhanced soldier being prohibited under Article 35(2) not who the casualties are, but rather the amount of damage the weapon itself can inflict). Additionally, super soldiers would be prohibited if the distinction to separate civilian from enemy causes “superfluous injury or unnecessary suffering.” *Id.*

⁸⁵ See *Superfluous Injury or Unnecessary Suffering*, *supra* note 39 (detailing that the amount of force used to kill is what ultimately determines whether or not an individual went beyond his or her lawful ability to kill). Although military soldiers cannot specifically kill civilians, they can however lawfully and intentionally kill enemy military soldiers. *Id.*

⁸⁶ See *Superfluous Injury or Unnecessary Suffering*, *supra* note 39, (suggesting that although Article 35(2) of the Geneva Conventions was written in 1977, the document was intended to protect civilians and was therefore left ambiguous in order to cover a wider array of prohibited weapons).

⁸⁷ See *Superfluous Injury or Unnecessary Suffering*, *supra* note 39 (detailing that the real analysis of whether a weapon should be prohibited or not under Article 35(2) stems from a strict approach of the definition of “superfluous injury or unnecessary suffering”).

2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.
3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.⁸⁸

The concepts of these principles, especially within (2) are merely to provide a backbone in balancing the distinction between military necessity in warfare and the protection of humanity.⁸⁹

Enhancing soldiers to create super soldiers during times of war or armed conflict must be viewed as a military necessity, which is required or essential to obtain a specific objective.⁹⁰ These objectives, however, must be lawful and abide by Article 35(2) of the Geneva Conventions in order to prevent a potential war crime.⁹¹ Article 35 grants a country the right to use military necessities specifically to achieve

⁸⁸ See *Article 35: Basic Rules*, *supra* note 12 (listing the principle of Article 35 of the Geneva Conventions).

⁸⁹ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (describing how Article 35 forces countries to create an obligated balance between military advances and the protection of human lives). If Article 35 did not exist, then countries would be free to invoke “necessary” military advancements without any kind of prohibitions being considered. *Id.* However, “[i]n cases not covered by [Article 35] or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience.” *Id.*

⁹⁰ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (inferring that any “military necessity” requires that that necessity be related to a specific military goal).

⁹¹ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (concluding that any military objective must be lawful and strictly follow the international laws of war).

goals during war, but those rights are not unlimited.⁹² The real issue stems from the term “military necessity,” which the laws of war have defined as follows:

Military necessity is an urgent need, admitting of no delay, for the taking by a commander, of measures which are indispensable for forcing as quickly as possible the complete surrender of the enemy by means of regulated violence, and which are not forbidden by the laws and customs of war.⁹³

From this definition, there are four elements that determine when a military necessity actually exists: (1) urgency, (2) the control of the type of force used, (3) situation rises to the level of being absolutely necessary, and (4) the type of force used is not prohibited.⁹⁴ Additionally, good faith alone will not shield a country from wandering astray from Article 35 and claiming there is a military necessity without just cause.⁹⁵

Although countries around the world may have the most sophisticated and up-to-date weapon systems, the weakest link in determining who wins and loses wars narrows

⁹² See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (stating that there are not unlimited rights for a country to use military necessity as a way to go around Article 35).

⁹³ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (defining a military necessity). An alternative definition to what constitutes military necessity is “the right to apply that amount and kind of force which is necessary to compel the submission of the enemy with the least possible expenditure of time, life and money.” *Id.*

⁹⁴ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (listing the four elements that make up the military necessity foundation).

⁹⁵ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (concluding that a country who acts based on the “heat of battle” will not be offered a good faith pardon).

down to human soldiers.⁹⁶ Military training can only prepare a soldier for so much, until a plateau occurs, then advances in military technology come into play.⁹⁷ If military soldiers need to become stronger, smarter, faster, and more durable in order to win wars and defeat the enemy, then enhancing these soldiers to create super soldiers will give a country's military an even greater advantage.⁹⁸ In order for a particular military to become superior, the foundation of that military, being human soldiers, needs to survive longer than before by using human enhancement.⁹⁹ The basic instinct for a human is to survive, therefore, suggesting that the right to create super soldiers is an instinctive right based on military necessity to achieve the objective of winning wars against enemy forces.¹⁰⁰ Ultimately, utilizing human enhancement technology would vastly improve neuroscience, biotechnology, nanotechnology, robotics, and artificial intelligence for military soldiers.¹⁰¹

C. Benefits and Drawbacks

With advances in military technology quickly growing and evolving, the pressure to create an army of efficient super soldiers to be used as weapons during war is only increasing.¹⁰² While there

⁹⁶ See Lin, *supra* note 4 (concluding that military soldiers are the one aspect that can determine the fate of warfare).

⁹⁷ See Lin, *supra* note 4 (reasoning that in order for soldiers to become fully enhanced, military technology is required).

⁹⁸ See Lin, *supra* note 4 (describing how a particular military can gain a greater warfare advantage over an enemy force by enhancing soldiers into super soldiers).

⁹⁹ See Lin, *supra* note 4 (suggesting that human enhancement is a viable solution to make soldiers perform at a higher level than before).

¹⁰⁰ See Lin, *supra* note 4 (inferring that the right to utilize human enhancement stems from the basic instinct to simply survive, coupled with the objective of creating a stronger military). Additionally, even the improvement and enhancement of external devices to be used by soldiers would give a superior military advantage by creating super soldiers without using biological enhancements. *Id.*

¹⁰¹ See Lin, *supra* note 4 (listing the various areas of technology that are used for human enhancement within the military to create super soldiers).

¹⁰² See Krishnan, *supra* note 16 (outlining that the War on Terror in Iraq and Afghanistan have sparked a flame towards the development of super soldiers using human enhancement technology); Snyder, *supra* note 1 (concluding that the United

may be reservations about whether using super soldiers as weapons violates Article 35(2), the military needs “warfighters to be made stronger, more aware, more durable, [and] more maneuverable in different environments.”¹⁰³ However, if these super soldiers do not cause “superfluous injury or unnecessary suffering,” but rather kill enemy combatants more efficiently and with reduced pain or suffering, then enhancing soldiers would not be prohibited under Article 35(2) of the Geneva Conventions.¹⁰⁴ Enhancing soldiers into super soldiers can often be viewed as a negative idea, however, enhancing soldiers is simply a more effective version of upgrading the traditional weapon of the human soldier into a super soldier.¹⁰⁵ Enhancing soldiers would allow the United States military to reap the benefits of not only building the ultimate fighting force in the world, but also allowing for total destruction and annihilation of enemy forces through swift and efficient super soldiers.¹⁰⁶ Ultimately, the United

States military is invested into creating “technologies of the future”); Gagnon, *supra* note 2 (suggesting that enhancing military technology is a top priority for countries around the world).

¹⁰³ See Lin, *supra* note 4 (stating how the military needs to make enhancements to basic humans so that these new super soldiers are more efficient on the battlefield).

¹⁰⁴ See Hanlon, *supra* note 8 (inferring how enhanced soldiers would be able to better eliminate enemy combatants through various enhanced superhuman abilities).

The United States Pentagon is currently working on:

. . . the creation of human terminators, who feel less pain, less terry and less fatigue than "non-enhanced" soldiers and whose very bodies may be augmented by powerful machines . . . Not only are tired soldiers less physically able to fight and run, they make more mistakes with the complex weapons systems at their disposal – mistakes that can prove deadly to themselves and their comrades.

Id.

¹⁰⁵ See Al-Rodhan, *supra* note 9 (stating that upgrading old weapons does not specifically change war itself, but rather makes new weapons more efficient). There have been advances in camouflage and the M-16 rifle over the years that have not changed war, and now enhancing soldiers will not change war, just an improvement in technology. *Id.* See also *Warfare*, *supra* note 23 (inferring that traditional weapons will be affected by advances in military technology).

¹⁰⁶ See William, *supra* note 17 (describing how creating and employing super soldiers would produce superior benefits by destroying enemy forces). Another advantage with creating super soldiers would be the military’s ability to specifically tailor each individual soldier, rather than rely on natural selection with traditional human soldiers. *Id.*

States military would possess an army of super soldiers, surpassing the skills of any traditional elite military soldier, and would kill more efficiently with superior deadly force.¹⁰⁷

On the other hand, using super soldiers with enhanced abilities could lead down a disastrous road with dire consequences because of the robotic nature and lack of human connection these super soldiers would possess.¹⁰⁸ The possibility of a super soldier not being able to establish the difference between an adult, child, enemy combatant, or even friendly forces could lead to rogue killing machines at the center of a battlefield.¹⁰⁹ If certain enhanced abilities were available to super soldiers, such as built-in flamethrowers or rocket launchers, then perhaps that would give the opportunity, or possibly enable unlawful killings on a ruthless and relentless level.¹¹⁰ The lack of human values in enhancing super soldiers is the root of why these “weapons” could be prohibited because causing “superfluous injury or unnecessary suffering” does not have to be intentional; the act(s) can be an involuntary, accidental, or even a numb reaction these super soldiers could have during the heat of battle.¹¹¹ With greater advancements in human enhancement technology to create super soldiers comes greater risk of losing the human connection traditionally associated with war, and bridging an era of nonhuman warfighters.¹¹² Nevertheless, even with a far and distant hypothetical situation with super soldiers becoming mind numbing robots, the real and near possibility of enhancing soldiers to be tailored to a specific military goal

¹⁰⁷ See William, *supra* note 17 (noting that super soldiers with enhanced abilities would outperform traditional elite or Special Forces military soldiers).

¹⁰⁸ See Philips, *supra* note 65 (inferring that with a lack of human empathy, these super soldiers would operate more like robots and kill without mercy).

¹⁰⁹ See Philips, *supra* note 65 (theorizing that super soldiers without empathy genes could be unable to operate on an emotional level, leading to unnecessary killings).

¹¹⁰ See Dvorsky, *supra* note 4 (describing how super soldiers could possibly violate the Geneva Conventions as a prohibited weapon). Additionally, creating super soldiers with built-in artificial weapons could potentially be classified as an “inhumane weapon,” also prohibited by the Geneva Conventions. *Id.*

¹¹¹ See Dvorsky, *supra* note 4 (describing how causing “superfluous injury or unnecessary suffering” can occur from a variety of different approaches by super soldiers).

¹¹² See Dvorsky, *supra* note 4 (stressing the ethical issue that super soldiers could cause if these enhanced soldiers lost complete human connection and acted purely on a killing instinct).

to destroy enemy forces quickly, efficiently, and without causing “superfluous injury or unnecessary suffering,” is the true benefit in using human enhancement technology.¹¹³

D. Is There a Need to Reform?

When Article 35(2) was originally drafted, the document, like the United States Constitution, contained specific language designed to withstand the assumptions and advances of time.¹¹⁴ However, at the time Article 35(2) was written, the idea of utilizing human enhancement technology to create super soldiers for winning wars had not or was not considered an issue that could ever arise.¹¹⁵ Due to the lack of specificity and detail of Article 35(2), there is too much ambiguity lurking to officially determine if super soldiers are a prohibited weapon.¹¹⁶ As of right now, there is no specific or implied language within Article 35(2) that prohibits the use of creating and using super soldiers in warfare tactics.¹¹⁷ Additionally, because there is no specific language within Article 35(2) prohibiting any specific weapons, a more in-depth analysis and better understanding of the damage certain weapons can, or cannot do is necessary in determining if a particular weapon should or should not be prohibited.¹¹⁸

¹¹³ See Steele, *supra* note 18 (inferring that various advances in technology to promote super soldiers would create modern-day heroes). Technology that advances traditional human soldiers into super soldiers would allow them to better endure the harsh effects of war and even save more lives. *Id.*

¹¹⁴ See Dvorsky, *supra* note 4 (suggesting that the Geneva Conventions was specifically created to be able to last an extremely long time without needing to be amended).

¹¹⁵ See Dvorsky, *supra* note 4 (addressing that at the time the Geneva Conventions was written, no one foresaw the issue of utilizing super soldiers during warfare).

¹¹⁶ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (stating that the provisions within Article 35 “undoubtedly seemed to be lacking in clarity”).

¹¹⁷ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (addressing that Article 35 is “aimed at the prohibition of superfluous injury or unnecessary suffering . . . [and that] it is appropriate to begin by remarking that the text does not contain a prohibition on specific weapons”); Dvorsky, *supra* note 4 (stating that there are not specific rules or provisions prohibiting the use of super soldiers in combat).

¹¹⁸ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8

One of the reasons why Article 35(2) was intentionally designed to contain a certain amount of discretion and ambiguity was to allow military Generals to instill their wisdom and confidence in warfare tactics by “limit[ing] the injury and suffering of war entertained by a number of authors following the Second World War.”¹¹⁹ From this gray area of discretion, military Generals were to use weapons only out of “military necessity” in order to reach any warfare objective.¹²⁰ Would Article 35(2) actually need any reform if the human enhancement technology used to create super soldiers did not cause any “superfluous injury or unnecessary suffering” because of a super soldier’s ability to identify just how much force, including deadly force, to use?¹²¹ If super soldiers were stronger, faster, tougher, better trained, and more durable, does that mean they would be able to better kill or injure enemy combatants, unlike traditional human soldiers acting on emotions in the heat of battle?¹²² Although some critics may conclude that there is need to reform Article 35(2) to include language about super soldiers, Article 35(2) was completely accepted without any resistance or major questions by the Committee III of the Conference for the International Committee of the Red Cross.¹²³ Furthermore, if the United States military wanted to implement human

June 1977., Commentary of 1987, Basic Rules, supra note 28 (describing that more importance should be given to Article 35(2) to better understand if a specific weapon is “of a nature to cause superfluous injury or unnecessary suffering”).

¹¹⁹ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 *June 1977., Commentary of 1987, Basic Rules, supra note 28 (detailing how Article 35(2) was specifically designed to allow top military officials to dictate how to employ certain weapons based on his military experience).*

¹²⁰ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 *June 1977., Commentary of 1987, Basic Rules, supra note 28 (noting that the specific threshold of the types of weapons military leaders could use was based on “military necessity”).*

¹²¹ See Lin, *supra* note 4 (inferring that if super soldiers could kill without causing “superfluous injury or unnecessary suffering,” then there would be no violation of Article 35(2)). Additionally, if a super soldier had enhanced pain receptors, then no torture of that soldier could occur if no pain is ever felt, thereby not violating the Geneva Conventions. *Id.*

¹²² See Lin, *supra* note 4 (referencing how if super soldiers could kill better than traditional soldiers, then super soldiers would not be a prohibited weapon under Article 35(2)).

¹²³ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8

enhancement technology to create super soldiers for warfighting, this “weapon” would still need to abide by other provisions and articles within the Geneva Conventions.¹²⁴

E. “If it Ain’t Broke, Don’t Fix it”

The right to enhance weapons based on military necessity, has always been the reason for implementing questionable forms of weaponry in war.¹²⁵ Although war is subject to rules, the term “fairness” should not have to dictate how wars are fought, unlike a game of soccer where both sides are required to play fair.¹²⁶ Many in society have accepted personal enhancements through cosmetic and plastic surgeries, as well as supplements, including steroids, so why should there be a difference if the military is looking to achieve the same results with soldiers?¹²⁷ A more obvious form of human enhancement are vaccines, where even George Washington himself ordered his troops to be vaccinated against smallpox in order to gain a superior

June 1977., Commentary of 1987, Basic Rules, supra note 28 (concluding that Article 35(2) was approved without any issues from the International Committee of the Red Cross).

¹²⁴ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules, supra note 28* (stating that there is no need to reform Article 35(2) because there are other provisions within the Geneva Conventions that prohibit certain weapons from being used). Within the Geneva conventions, there are provisions “designed to prohibit methods and means of mass extermination . . . or weapons which have indiscriminate effects . . . or even means of combat resorted to in the context of the conflicts covered by [General principles and scope of application].” *Id.*

¹²⁵ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules, supra note 28* (explaining that use of certain weapons for war have been generally considered acceptable, although debates have shown arguments for and against this standard).

¹²⁶ See Allenby, *supra* note 4 (stating that it would be difficult to defend a position that supports wars should be fought fairly). Having individuals subjected to serious injuries or even death all to support “fairness” in war is a hard position to stand for. *Id.*

¹²⁷ See Allenby, *supra* note 4 (suggesting that human enhancement technology used by the military is no different than ordinary people using various types of personal enhancement methods for particular goals). In 2011, the American Society for Plastic Surgeons reported that \$11.4 billion was spent on cosmetic surgery by Americans who went through 13.8 million surgery procedures. *Id.*

military advantage over the British Army.¹²⁸ If human enhancements would create stronger, faster, and smarter military soldiers, then the military should not be in the wrong for implementing military technology to create super soldiers.¹²⁹

When the International Committee of the Red Cross collectively voted and passed Article 35(2) of the Geneva Conventions, it became clear that this provision contained enough particularized language to prohibit certain forms of weapons that are of a nature to cause “superfluous injury or unnecessary suffering” without having to create a laundry list of specific weapons.¹³⁰ Additionally the phrase “superfluous injury or unnecessary suffering” cannot be defined any more clearly than how it is now because from a medical standpoint, it would be almost impossible to determine the level of pain for each individual person experienced during war.¹³¹ This phrase cannot be viewed objectively due to the endless variations of

¹²⁸ See Allenby, *supra* note 4 (stating that vaccines are one of the most widely used forms of human enhancement); Lin, *supra* note 4 (explaining one of the first instances of human enhancement technology used during the Revolutionary War).

¹²⁹ See Lin, *supra* note 4 (inferring that in order for humans to survive wars of the future, there needs to be soldiers who have been enhanced by science and technology).

. . . military training seeks to address these problems, but it can do only so much, and science and technology help to fill those gaps. In this case, what's needed is an upgrade to the basic human condition. We want our warfighters to be made stronger, more aware, more durable, more maneuverable in different environments, and so on. The technologies that enable these abilities fall in the realm of human enhancement, and they include neuroscience, biotechnology, nanotechnology, robotics, artificial intelligence, and more.

Id.

¹³⁰ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (explaining what the International Committee of the Red Cross chose not to make Article 35(2) more specific).

¹³¹ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (describing why the terms “superfluous injury or unnecessary suffering” must be viewed on a subjective spectrum from a medical perspective).

wounds, injuries, and pain felt by soldiers and civilians during war.¹³² To better specifically define “superfluous injury or unnecessary suffering,” one would essentially be creating a slippery slope by allowing more generalized acceptance of these terms.¹³³ Generally, the phrase “superfluous injury or unnecessary suffering” must continue to be scrutinized by the severity of the injury, intensity of the suffering, and the relation to any military necessity in order to determine if a specific weapon should be prohibited under Article 35(2).¹³⁴

If an amendment or additional provision were added to Article 35(2), then further debating, scrutinizing, and backlash could occur from politicians, scholars, and the general public about whether or not the language in Article 35(2) is considered complete and all-encompassing.¹³⁵ Article 35(2) does not have to be and cannot be a “catch-all” provision for banning all kinds of weapons simply because critics are overreacting to the discretion and ambiguity aspect Article 35(2) offers.¹³⁶ Although Article 35(2) may not be able to prohibit certain weapons because of the discretion and ambiguity aspect, there are other articles within the Geneva Conventions that do

¹³² See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (suggesting that the individualized degree of pain felt by soldiers would cause an objective view of “superfluous injury or unnecessary suffering” near impossible).

¹³³ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (inferring that if the terms “superfluous injury or unnecessary suffering” were tailored to specifics, enemy forces could potentially use that as a loophole to torture soldiers until the “superfluous injury or unnecessary suffering” occurs for each specific soldier).

¹³⁴ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (stating the factors that must be considered when determining if particular weapons should be prohibited under Article 35(2)).

¹³⁵ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (suggesting that amending Article 35(2) would not solve any issues that may surround this specific provision of the Geneva Conventions).

¹³⁶ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (opining that Article 35(2) does not have to be the only provision responsible for prohibiting weapons used in war).

specifically prohibit other forms of weapons.¹³⁷ While there may be some debate as to whether or not to reform Article 35(2),¹³⁸ experienced military officials should be able to use the discretion and ambiguity offered by Article 35(2) in order to achieve military necessities in war.¹³⁹ Ultimately, if that means using human enhancement technology to create super soldiers to destroy enemy forces, then the military would not be violating any international war crimes under the laws of war.

V. Conclusion

The violence of war is now and has been a serious problem throughout the world. Not every country the United States enters into

¹³⁷ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (explaining how there are other articles within the Geneva Conventions that also prohibit certain forms of weapons in war). Other forms of weapons that are prohibited under other articles of the Geneva Conventions include:

1. explosive bullets and projectiles filled with glass, but not explosives contained in artillery missiles, mines, rockets and hand grenades[;]
2. "dum-dum" bullets, i.e., bullets which easily expand or flatten in the human body, such as bullets with a hard envelope which does not entirely cover the core or is pierced with incisions or bullets of irregular shape or with a hollowed-out nose;
3. poison and poisoned weapons, as well as any substance intended to aggravate a wound;
4. asphyxiating or deleterious gases[;]
5. bayonets with a serrated edge, and lances with barbed heads[;]
6. hunting shotguns are the object of some controversy, depending on the nature of the ammunition and its effect on a soft target.

Id.

¹³⁸ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (stating that Article 35(2) still continues to be a question of controversy relating to military weapons).

¹³⁹ See *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1977., *Commentary of 1987, Basic Rules*, *supra* note 28 (stating that the International Committee of the Red Cross acknowledged the importance of allowing military generals to interpret military matters and use discretion in the course of dealing with military situations).

war with has signed, or even obeys, the Geneva Conventions. Not every piece of literature contained within the laws of war should be so detailed, specific, or fair, because war is none of those things, especially fair. For the United States military to gain a superior military advantage over enemy forces, a certain amount of discretion and ambiguity needs to be used, and such kind of language is offered through Article 35(2). With technology rapidly evolving and the need for the United States to remain the elite fighting force in the world, the use of human enhancement technology to create super soldiers should not be overlooked. Because wars of the future are projected to be harsher,¹⁴⁰ producing military soldiers capable of handling the demands of those harsh conditions¹⁴¹ would only make sense. Ultimately, the use of human enhancement technology to create an army of super soldiers should not be prohibited under Article 35(2) of the Geneva Conventions.

¹⁴⁰ See Snyder, *supra* note 1 (speculating that wars of the future would closely resemble disturbing science fiction movies); see also Ollivant, *supra* note 75 (inferring that although the character of warfare itself has not changed, warfare has “absorbed far more earth-shaking developments”). Because the issues of fear, honor, and interest will remain to be the crux of war, there is a possibility that the next war of the future will be nothing that anyone foreshadowed. *Id.*

¹⁴¹ See Lin, *supra* note 4 (concluding that warfighters should be “made stronger, more aware, more durable, [and] more maneuverable in different environments”). Although military training seeks to make soldiers ready for war, training can only go so far. *Id.* The point where military training ends, is where the use of military technology begins. *Id.*